UNITED STATES PUBLIC HEALTH SERVICE

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SANITARY SURVEY OF SCHOOLS IN BARTHOLOMEW COUNTY, IND.

BY

J. A. NYDEGGER

Surgeon, United States Public Health Service

REPRINT NO. 177
FROM THE
PUBLIC HEALTH REPORTS
FEBRUARY 6, 1914

WASHINGTON
GOVERNMENT PRINTING OFFICE
1914

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The survey of the schools of Bartholomew County was made upon the request of the health commissioner of the county of Bartholomew and the secretary of the Indiana State Board of Health. Work was begun September 23, 1913. It was planned that the scope of the survey should include: (1) a medical inspection of the school children of the public and parochial schools, with especial reference to the occurrence of contagious and infectious diseases, particularly trachoma, and the extent of existence of defective teeth, hypertrophied tonsils, and adenoids, and (2) a sanitary inspection of the school buildings, grounds, outhouses, etc.

In order to have the inspection reports uniform, and also to expedite the work of the survey, a blank form for use in making the inspections was prepared. This form embraced some 36 items of medical and sanitary information relating to the pupils and schools, to be obtained at each school visited.

Bartholomew County is one of the large counties of Indiana. It lies in the southeastern part of the State and has an area of some 400 square miles. The surface in the greater part is level or rolling, but in the western section of the county is broken up and quite hilly. The White River and its tributaries traverse the county in a general direction from north to south. The lowlands are very fertile. Here the suface is overlaid with a deep humus, in part mixed with gravel from former river washings, with a gravelly substratum. The hilly section is mostly hard clay soil mixed with shale, with shaly substrata. This makes a permanent water supply a matter of some difficulty without going to a considerable depth.

The estimated population of the county is 28,000. The taxable basis is $20,000,000. Columbus, the county seat, a modern, prosperous city, of some 11,000 people, is centrally located in the county. There are a number of other towns. Of these, Hope is the largest after Columbus. Excellent roads form an extensive network over the county.

Schools.

The county is subdivided into 14 townships. The townships contain from 4 to 10 schools each, according to size and population. Consolidated schools have recently been erected in a number of town-

[1] Reprint from the Public Health Reports, vol. 29, No. 6, Feb. 6, 1914.

ships, thereby greatly lessening the total number of schoolhouses in the county.

A single school trustee is responsible for the schools in a township, except where there are municipal or village schools, and he provides for new school buildings, maintenance of buildings, employment of teachers, etc., and has general supervision of the school property. It is a pleasure for me here to refer to the great interest and pride some of these trustees take in their duties.

In all, I visited and investigated 83 schools. Fifty-seven, or 69 per cent, were one-room rural district schools; seven, or 8 per cent, were two and three room rural schools; six, or 7 per cent, were consolidated schools with from three to nine rooms each; three, or 3.6 per cent, were parochial schools; two, or 2.5 per cent, were village schools; and eight schools, or 9 per cent, were in the city of Columbus. These schools employ 173 teachers. In all 3,969 school children were inspected.

Twenty-six frame schoolhouses were inspected. Twenty-three were one-room rural schools, one was a three-room town school, and two were in the city of Columbus.

Area and Condition of School Yards.

In the towns, as a rule, the school yards are of ample size and well kept, graded, and subdrained. The same may be said of the grounds belonging to the consolidated township schools. Here the yards are of ample size, and on the whole graded, clean, and well policed. The yards of the rural schools average from an acre in dimension to a third of an acre. About 90 per cent of the rural-school yards are level, some are sloping, and still a few others are decidedly abrupt and badly adapted for such purposes. The large majority of these yards were found to be fairly well policed, while some appeared to be practically neglected, with litter and rubbish lying about.

Drainage.

The school yards in most instances are sufficiently well drained. Some are drained well by the nature of the soil and others by the contour of the surface. Many of the yards are partly gravel in composition and porous, and drain quickly. At the large majority of schools the surface drainage from the outhouses is away from the buildings and wells, while at a limited number it is directly toward the buildings and wells.

Outhouses and Excreta Disposal.

In Columbus, where a water-carriage system exists, all of the schools are supplied with flush-out closets and urinals, with the exception of two, the kindergarten and the Booker T. Washington Colored

School. The former is furnished with a single outhouse in the school yard, provided with a brick vault. The outhouse is clean and well kept, but no screen is provided in front of entrance. The vault is in fair sanitary condition. Odors, however, were present. The Booker T. Washington School is provided with a double frame outhouse in the yard, supplied with screens in front of entrances for each sex. Brick vaults are furnished and have sewer connections. This outhouse is in good sanitary condition.

The Hartsville School is provided with new frame outhouses, properly separated for the sexes, screened entrances, and concrete vaults, trapped at rear to permit of access for emptying. The outhouses are not provided with screened openings for ventilation. Otherwise the buildings are good and suitable.

In the one and two room rural schools the sanitary condition of the outhouses was classified as follows:

Name of township.	Total number outhouses.	Outhouses in good sanitary condition.	Outhouses in fair sanitary condition.	Outhouses in bad sanitary condition.
Harrison	7	.....	1	6
Rockcreek	5	.....	2	3
Nineveh	6	1	2	3
Wayne	10	1	3	6
Columbus	7	.....	3	4
Jackson	4	.....	2	2
Sandcreek	6	.....	2	4
Union	6	1	.....	5
Clay	5	.....	.....	5
Ohio	4	.....	4	.....
Flatrock	2	.....	1	1
German	2	.....	1	1
Clifty	2	.....	.....	2
Total	66	3	21	42

The outhouses at about 2 per cent of the rural schools are provided with vaults. In the remainder the excreta is received upon the surface of the ground. In many the conditions were unspeakably dirty and insanitary, being filled with excreta almost to the seat. In a small percentage of these outhouses some attempt at removal of excreta and at cleaning up at the beginning of the school year was apparent. The vast majority of these outhouses are simply set on the ground and are freely open beneath and at the back, thereby allowing free access of flies, animals, etc., to the excreta. In a considerable number of the outhouses objectionable odors were so strong as to make it practically impossible to remain within. In a very few a urine trough had been provided in the outhouses for boys, while in others the seats and floors were urine soaked and gave forth strong odors. As a rule the outhouses are located at from 60 feet to 100 feet away from the school buildings.

Seventy sets of outhouses were inspected as to their being provided with suitable screens in front of them. Forty-two sets of outhouses

were noted as having proper screens in front of them. Twenty-eight sets of outhouses were without screens. These screens were classified as good, fair, and bad, according to their condition. Thirty-one were good; five were fair, and six were bad.

Outhouses, with relation to source of water supply and drainage.—In one instance, that of district school No. 4, Ohio Township, the source of water supply (a well) was noted as being 30 feet away from the outhouses. In two other instances the wells were noted as being about 50 feet distant from the outhouses. At still two other rural schools the wells were about 60 feet distant. At the other rural schools the average distance of the wells from the outhouses was from 75 feet to 150 feet. The majority of the wells average 100 feet from the outhouses. At a limited number of rural schools the source of water supply was from 15 rods to one-fourth mile distant. At two rural schools the slope of the school yards was such as to permit of surface drainage from the outhouses into the wells. At the large majority of the schools the grounds were either level or nearly so, while at a few the outhouses were situated at the lower part of sloping grounds, and the drainage was distinctly away from the wells.

Sources of Water Supply.

Seventy-two schools inspected are supplied with drinking water from wells, cisterns, or springs. Of this number 35 are supplied from driven wells, 33 from open or dug wells, 3 from cisterns supplied with rainwater from roofs of schools buildings, and one from a spring. The remainder are supplied with city water. The wells, as a rule, are shallow. Few exceed 40 feet in depth. The average depth is from 20 to 25 feet. The driven wells are mostly in the low, level sections of the country, while the dug wells are more frequently seen in the hilly sections. Owing to the dry summer season which had prevailed in that part of Indiana a number of the school wells were not being used at the time of the survey, some having gone completely dry, while in others the water was low and scant in amount. This was mostly the case in the hilly section of the county. While a number of the wells were covered with concrete, whether driven or dug, the majority of them were covered simply with boards.

Kind of Drinking Cups Used.

Seven schools in Columbus have drinking fountains installed. Outside of Columbus eight schools use individual drinking cups. Twenty-four schools still use the common drinking cup, and 43 schools use both the common and individual cups. In explanation of the large number of schools still using both individual and common cups it might be said that, in many instances, practically all the children of a school would be supplied with individual cups, while still at the

pump the common cup would be found in use, thus in a measure destroying the benefit conferred by using the individual cup.

In nine rural schools the common water bucket was found in use.

In four rural schools water coolers were used. In the remainder of the rural schools the water is pumped or drawn from the well as required.

Drainage from Pumps, etc.

In 28 instances the school wells were found to be supplied with satisfactory drains or troughs. In 20 instances the wells were not supplied with drains or troughs. In 11 instances a drain or trough was supplied, but was unsatisfactory and allowed the water to reach the well again, or was too short to carry the overflow water away from the well to a satisfactory distance. In 2 instances it was noted that the overflow water from the pump fell directly back into the well through coarse-screened openings in the well cover. With one exception, all of these defects were noted at rural schools.

Disinfection and Special Cleansing of Schoolhouses.

Of the 83 total schools visited and inspected 76 were reported as having been specially cleaned and disinfected before the beginning of the school year. Seven schools were reported as having been specially cleaned before the opening of school, but not disinfected. The method of disinfection of schoolrooms by the county health department is by formaldehyd gas, evolved from the combination of wood alcohol and potassium permanganate.

Lighting of Schools.

In the township consolidated, town, and city schools the lighting is good. In all of these buildings the light is admitted from the left side of the rooms. The Indiana laws require that the window or lighting area of a room shall be not less than one-sixth of the floor area. In all the above buildings the law has been fully complied with and there is in all an excess of illuminating surface beyond what is required. With the light coming from but one side of a room there can be no cross-lights. The case was found to be different in the rural school buildings, the majority of which are old, many of them having been erected a quarter of a century ago. In the sixty-odd rural school buildings inspected in this respect, practically all, with the exception perhaps of some dwellings used temporarily for school purposes, were sufficiently lighted. A number of schools, in which the window area as compared to the floor area was estimated, exceeded the requirement by from 10 to 15 per cent. The usual custom of lighting the rooms from both sides was adhered to in a large proportion of these schools, while a few of them were found to

be lighted from both sides and also the front. In 46 rural schoolrooms bad cross-lights were found to exist. In 10 rural schools the cross-lights were not bad. One room was found to be insufficiently lighted, and in one the school children sat facing the light.

Color of Interior Walls and Ceilings.

In the city, town, and township consolidated schools some uniformity existed as to the color of walls and ceilings; that is, some one color scheme had been carried out in a building. Possibly light green colored walls and ceilings predominated. In a number of buildings ocher was the color selected for the finish. Still other buildings had light gray and drab colored walls and ceilings. In the rural schools many of the rooms were papered. Generally some attempt at uniformity of color was found in the schools of a township. This resulted from the fact of one individual, the trustee, having selected the colors. The selection of colors for finish of interior of rooms seems, however, to have been left entirely to the fancy of the individual selecting them in the various towships. Green, gray, ocher, yellow, orange, white, brown, blue, and rose, of many shades were observed. A moderately light-green shade for the walls with a lighter ceiling of the same color is the finish usually adopted for schoolrooms at the present time.

Heating.

The Columbus city schools, the Hope High School, and three town and consolidated school buildings are heated by steam. Five town and consolidated township schools are heated by "sanitary heaters." Three schools are heated by hot-air furnaces. Forty-one schools are heated by coal stoves and 23 are heated by wood stoves. The method of heating rural schools was found to be chiefly by means of stoves.

It is impracticable to use steam for heating schools, except in the larger or consolidated buildings provided with basements. The patent or "sanitary heater" referred to appears to be a good type of heater to use in smaller schools in town or country. This heater is practically a jacketed coal stove located in the room to be heated. Fresh air from without gains access at the bottom of the jacket from a piped wall inlet. The fresh air becoming warmed by contact with the exterior of the stove rises, and passing upward to the top of the jacket, some 5 feet above the floor, escapes into the room. An attached receptacle for water, placed on top of the heater, preserves a proper degree of moisture in the room air.

The heating of the country school is a question. Until the consolidated rural school is more universally in use there will remain the one-room rural school and the vexed problem of heating it. This, as

we know, is generally done by stoves, and in a cold climate this is an unsatisfactory method. The floors are always cold and the children suffer cruelly from chilblains and colds. While the upper part of the room is too warm, the outer row of seats is in an icy atmosphere, and the whole room suffers from bad air. It is believed the type of sanitary heater mentioned would in a measure solve the problem of heating country schools. This method is well worth a trial, and the increased cost would not prove excessive. This type of heater supplies fresh warmed air in the room, where frequently foul air exists, and maintains a more uniform temperature in the room than the ordinary stove.

Ventilation.

Various methods of ventilation were found to exist in the schools. Natural ventilation, which is afforded by perflation of air through open windows and doors and what percolates by cracks and crevices, without any special provisions for outlet of foul air, was found to exist in 55 of the schools visited. Natural ventilation was the method mostly observed in the rural school. Natural ventilation with additional fresh-air inlets was found in two schools. Natural ventilation with additional fresh-air inlets and foul-air outlets was found in three schools. Natural ventilation with additional foul-air outlets was also noted in two other schools. The schools supplied with the accessory forms of natural ventilation were of the rural type with but one or two exceptions. In schools where steam was used for heating, as in the Columbus schools and a few others, warmed fresh air, introduced from without through the radiators, is constantly supplied to the schoolrooms and foul air is removed by means of specially constructed outlets and air shafts.

In six schools, where sanitary heaters and furnaces are provided, warmed, fresh air is supplied the schoolrooms, and special foul-air outlets and shafts are also provided.

In the more recently constructed city of Columbus schools, in those of more recent construction in the towns, and in the central or township consolidated schools, the ventilation is good. There does not appear to be overcrowding of the school children, and the usual allowance of cubic air space per capita is not curtailed.

In many of the rural schools the conditions were different. Although the weather was warm at the time of the inspection, and heat was not required, many of the schools were found with closed doors and closed windows, and the odor of foul air was noticeably perceptible. It is believed that many of the school children in the rural school suffer from the effects of bad ventilation. The maintenance of the normal moisture of the air of schoolrooms is necessary if comfort and good health are to be expected.

The methods found in use in the schools for maintaining the moisture of the air were noted, as follows: In 68 schoolrooms the air was supplied with moisture from vessels on the stoves. In 10 schoolrooms the air was supplied with moisture from steam radiators, and in 5 schoolrooms there were no visible means of supplying moisture.

Cloakrooms.

A matter of no small importance in schools is that of having separate cloakrooms. All schools should be provided with them. They can be provided at a slightly increased cost, and do much in the way of promoting the hygiene of the schoolroom. Wet and soiled and frequently bad-smelling clothes are hung up in these rooms, and thus are kept out of the schoolroom.

Of the schools inspected, 52 were provided with cloakrooms for keeping wraps, lunches, etc.; 31 schools had no special rooms for clothing, and the wraps and lunches as well were kept in the schoolroom proper. This absence of a special cloakroom was noticed to be confined entirely to the rural schools.

Facilities for Washing Hands and Face.

The facilities provided for washing hands and face were shown to be somewhat varied. Of the 83 schools inspected, six city schools in Columbus are provided with lavatories. The Booker T. Washington Colored School in this city is provided with a stationary washbasin, located underneath the sanitary drinking fountain, for purposes of washing hands and face.

At the high school in Hope no facilities are provided for this purpose beyond the pump at the well. Here, however, the school children mostly wash at home. In the East Columbus consolidated school, with about 300 scholars enrolled, the common washbasin is used in all rooms except the one presided over by the principal. The children in this room wash their hands and faces at home.

At the Hartsville School the children wash at home, or, if at school, at the pump in the yard.

At the Hawcreek consolidated school the school children wash in a common washbasin in a sink in the basement.

At three schools no provision was made for washing, and the children are expected to do this at home, as in all instances they live in the towns nearby. In three country schools, no provision whatever was made for washing hands and face. In 31 rural schools the common washbasin was found to be still in use.

In the movement for the promotion of hygiene in schools, and the discarding of the common towel and common drinking cup, the common washbasin should be included. It is a dirty, objectionable

vessel at best in a schoolroom, and in sections where water is scarce, the same wash water is frequently used by a number of different school children.

The Use of Towels in Schools.

Notwithstanding the campaign against the common towel in schools, it still continues to be used to a great extent, as my inspection showed. Unless its use is prohibited by law and this is strictly enforced, the common towel will continue to be used in many schools in the future. In the course of the survey, teachers were encountered who believed the common towel was all right, and saw no objection to its use by the school children.

The survey showed that in five schools in Columbus paper towels only were used. In the Columbus Central High School the common towel was still found in use, but I was informed that thereafter paper towels would be used in that school also. In the East Columbus consolidated school common towels were used in all rooms, except in the room in charge of the principal, where none was used. In the Hawcreek township consolidated school no common towel was used. The school children must use handkerchiefs or individual towels. In a number of the other consolidated and town schools the same rule applied. In the town schools, however, the school children have the advantage of the nearness to their homes in this respect.

In 24 schools (mostly rural) the common towel was found in use, and in 49 others (mostly rural) individual towels or none were used. Here must be explained the term "individual towel." It can mean anything—from a handkerchief or a piece of cloth to an individual towel. In most cases where the common towel was not used a handkerchief or a piece of cloth answered the purpose of a towel. In a number of schools nothing is used for wiping the hands and face after washing. They are simply allowed to dry by exposure to the air.

Adjustable Seats.

In making the survey, adjustable seats were a matter to which attention was paid. Now that adjustable seats for school children of all sizes are available, they should be provided in all schools. No longer should an inspector enter a school, city or country, and see children sitting on seats so high that their feet are suspended in the air. All seats and desks should be adjusted to the occupant. In all cases the seat should have such a relation to the desk top and the floor as to afford an easy natural position to the child.

Of the 83 schools inspected only 17 were provided with adjustable seats. The number of adjustable seats provided per school varied. In one school in Columbus 5 per cent of the seats were of the adjust-

able type. In two more schools in that city one-sixth and one-fifth of the number of seats provided, respectively, were adjustable. Two schools in Columbus had none. In the Hartsville School 46 per cent of the seats are adjustable. In the Hawcreek Township consolidated school no adjustable seats were found, although 25 adjustable seats had been ordered. In the East Columbus Township consolidated school, with an enrollment of 330 school children, only 37 adjustable seats were found. In the Hope School about the same proportion of adjustable seats was found. In Flatrock Township 78, or 29 per cent, adjustable seats were provided in three schools, with an enrollment of 270 children. In three schools in Clifty Township, with an enrollment of 132 children, there were 29, or 22 per cent, in two schools and none in the third. In a total of five schools in Rockcreek Township 66, or 63 per cent, adjustable seats were found in four schools where the enrollment was 104, while the fifth school, with 2 rooms and 42 scholars enrolled, had none.

In 61 schools, or 73½ per cent, mostly rural, no adjustable seats were found.

Location of Blackboards.

Attention was given to the location of blackboards also in making the survey. Blackboards can be placed either too high on the walls so as to be above the reach of the smaller children, or again placed too low, requiring the children to stoop. Both of these defects in location add to the discomfort of the child and tire it all the more quickly. Again, the location of the blackboards with reference to the light reaching them from one side (left preferably), from being equally distributed over the entire surface, or so as not to cause confusion and shadows, should always be borne in mind. With these points in view, the results of the survey were as follows:

In 44 schools the blackboards were properly located. In 39 schools the blackboards were improperly placed. This is a matter of much hygienic importance to the school children. Improperly located blackboards lead to eyestrain, while properly located and lighted boards are a pleasure for the children to work at. In a number of the schools the blackboards were found to extend into corners and hence to include angles. No worse locations could be selected for blackboards than corners, for the light always must be bad there. The material of the blackboards inspected was black-painted boards or black-painted plaster, and in some schools slate stone was used. In all the newer, consolidated, and town schools, the blackboards were found properly placed. In the country schools mainly the defects as to location and proper illumination were observed.

Health of School Children.

In making the survey the occurrence of contagious and infectious diseases among the school children was especially sought for, particular attention being paid to the search for trachoma and defective oral and pharyngeal conditions. Organic diseases, deformities of back and limbs, defective hearing, defective speech, and mentally dull and backward children were observed.

In general, the 4,000 school children examined throughout the county were found to be well nourished and in good health, as was evidenced by their rosy complexions, sparkling eyes, and vivacity. In some of the western townships, in the hilly and less fertile sections of the county, some of the children appeared to be not well nourished.

In making the survey, it was desired to ascertain how many school children were suffering from defective teeth. The defects observed in a cursory examination would have doubtless been greatly increased had the examination been made from a dentist's point of view, with the use of mirror and probe. The age of the children examined ranged from 6 to 14 years for the rural and graded schools, and higher for the high schools. In the 3,969 school children examined, 1,435, or 38.67 per cent, had defective teeth, ranging from one tooth to three or four or more defective teeth per child.

Five hundred and thirty-nine children, or 14 per cent of the total number examined, had enlarged tonsils. It is safe to estimate that fully 25 per cent, or 125, of that number, also have adenoids.

There was no noticeable difference in the proportion of enlarged tonsils observed in school children in towns from those in the rural schools.

Trachoma.—Trachoma was found to exist in 20 schools in 8 townships, 1 town, and 1 city. Forty-eight cases of well-marked trachoma were found in the 3,969 school children examined, or 1.2 per cent. Twenty cases of trachoma were found in 11 county schools and 1 township consolidated school. Fourteen cases were found in 6 Columbus schools, 11 cases were found in the East Columbus consolidated school, and 3 in the high school, town of Hope. In the country schools, 6 cases were found in 1 school in Wayne Township. From the above it will be noted that trachoma is most prevalent in the two townships, Columbus and Wayne. Thirty-four cases were found to exist in these two townships.

An interesting feature of the existence of six cases of trachoma in one rural school, in Wayne Township, is that five of the cases are in two families; two cases being in one family and three cases being in another family. In another county school with two cases, both cases were in one family. An interesting feature, as showing the conta-

giousness of the disease, was observed in this family. The two children at the school with trachoma, upon being asked whether any other members of the family had sore eyes, replied that there were two older sisters in the family and that both had had sore eyes for years. Their home was near the school and it was next visited. There it was learned that of a family of six, five had sore eyes. The wife, a second one, who had not been a member of the household long, was the only member free from the disease. The father, who was absent at the time, had had sore eyes for a number of years, and subsequently the two older daughters had developed sore eyes. Both older daughters lived away from home and could not be seen. One of the sisters was reported as being almost blind from her eye trouble. Of the three cases of trachoma seen in the Hope High School, two were in one family—brothers. Also two cases seen in the Central High School, Columbus, were brothers.

In the East Columbus Township consolidated school, 11 well-marked cases of trachoma were found. In this school 330 children are enrolled and 290 were present and examined, the percentage of cases there being 3.8 per cent. In district No. 2 school, Wayne Township, with six cases of trachoma found in 32 school children examined, the percentage rate is 19 per cent. An interesting feature in connection with the extent of trachoma in the East Columbus Township consolidated school may here be reported. It was noted that in all rooms beside that of the principal, a common towel was used by the school children. Here is an instance where the use of the common towel might easily have acted as a disseminator of the disease.

School children found suffering with trachoma ranged from 6 to 16 years of age, and it was about equally prevalent in both boys and girls, 20 being in the forner and 28 in the latter. In a number of these cases there was a decided discharge from the eyes, denoting the acuteness of the disease. Other cases had apparently passed beyond this stage. In all, the granulations were large and plentiful.

With the exception of one family in which trachoma existed and which had come into the county some two years previously from Kentucky, all the school children found to be suffering from trachoma were born in Indiana as far as ascertained and many of them in Bartholomew County, although they had not always lived in the same locality.

Doubtless trachoma had existed in Bartholomew County for years and was introduced either from some other part of the State or from other States or was brought in from Europe by immigrants.

Trachoma and cases suspicious of trachoma in Bartholomew County, Ind., schools, September–October, 1913.

Township.	Trachoma.	Suspicious.
Sandcreek	3	2
Rockcreek	1	1
Harrison	2	1
Wayne	9	.....
Clay	2	2
German	1	.....
Columbus	1	1
East Columbus consolidated schools	11	2
Hawcreek Township consolidated schools	1	.....
Hope High School	3	.....
Columbus—		
Central High School	2	.....
Washington School	1	.....
Jefferson School	4	1
McKinley School	1	.....
Garfield School	4	.....
Lincoln School	2	2
Total	48	12

Follicular conjunctivitis.—Twenty cases of follicular conjunctivitis were observed in the school children in 14 schools. This disease was noted to be prevalent more in children in the rural schools. Sixteen cases were found in 13 country schools and four cases in one school in Columbus.

Impetigo contagiosa.—Three cases of impetigo contagiosa were observed in children in one school. Investigation showed that these cases were all members of one family. No other cases of this disease were noted.

Summary.

This report would not be complete without some reference being made to the rapid strides in the way of improvement going on in the rural schools of Bartholomew County. The movement in the way of providing more sanitary buildings and grounds, with a corresponding bettering in educational facilities, is mush in evidence. Chief in this respect is the establishment in rural districts of central or consolidated schools. By so doing, the consolidated school absorbs anywhere from 3 to 10 or more one-teacher, one-room rural schools, according to the school population of a township. This central school building is constructed in accordance with the latest approved ideas of school architecture, and is properly heated, lighted, and ventilated. Excreta is disposed of by the crematory method. Sanitary drinking fountains supplied from a deep well, by air pressure, take the place of the common cup, the common water bucket, and the shallow well, so frequently seen much in evidence in the one-room rural school.

By consolidation, the rural schools become graded in the central school, thereby affording the school children a marked advantage,

not only in the way of providing comfortable and sanitary schoolrooms, but also in the way of providing far better educational features.

A number of these excellent consolidated township schools were visited in the course of the survey, and if especial reference could be made to any one of them, doubtless the Hawcreek Township consolidated schools would be considered. Previous to the establishment of this consolidated school, 11 one-room rural schools existed in the township, presided over by a like number of teachers. With the placing of all these schools under one roof, the work is now done by seven teachers, and the school is graded. Additional courses, such as manual training, domestic science, etc., which were not taught in the one-room schools, have been added. The children are transported to and from the school. It was an interesting sight to see 11 large, comfortable, heated vans, each accommodating about 20 children, drawn up to the school at the end of the day to carry the 200 school children to their respective homes. I was informed that at this school no child walked. All rode to and from school. The fine assembly room is the social center of the community.

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